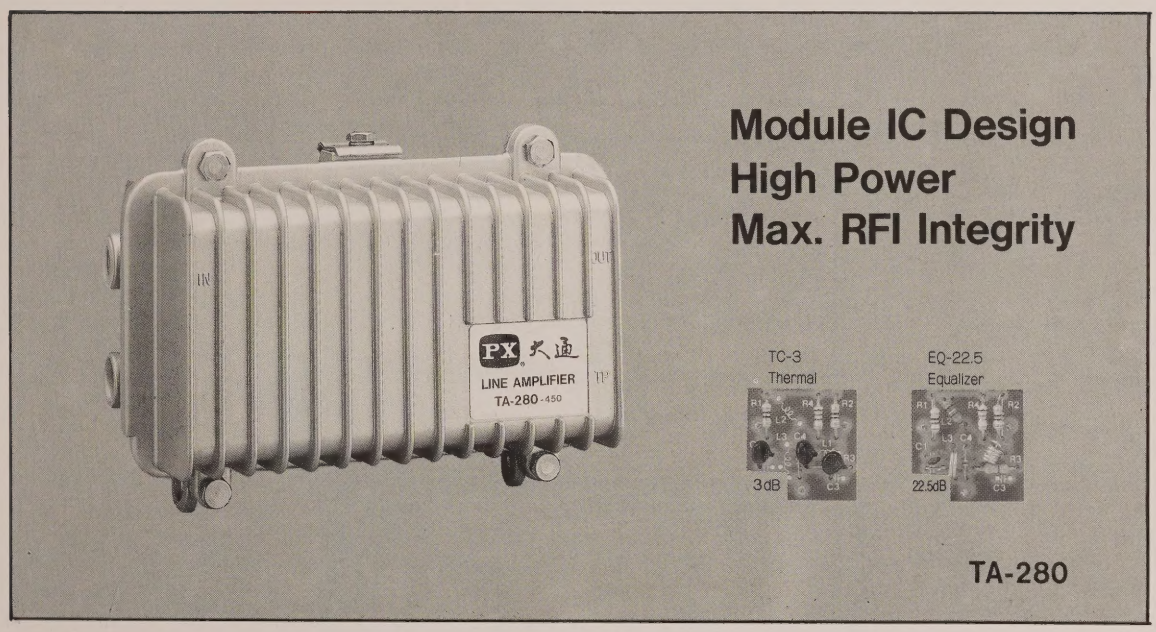
Priority in Service Quality

CABLE TV SYSTEMS

# Model: TA-280
# CATV LINE AMPLIFIER




## FEATURES:

1. The special design for CATV Trunk Line Transmission.
2. CATV Hybrid Integrated Circuit design for high quality amplification and high power output.
3. Tuning type Gain control (0-20 dB adjustable) to meet the required output level.
4. Various slope control to meet the feature of cable attenuation.
   a. Plug-in type equalizer (0, 12, 22.5dB option; the 22.5dB equalizer will be equipped if not specified in ordering).
   b. Tuning type slope control (0-8dB adjustable).
5. Thermal equalizer circuit available for 3dB ± 40° C, when the equalizer is required (the thermal equalizer has to be ordered separately).
6. Suitable for any Voltage range: 25/35/45/55V switchable.
7. Directional power feeding: Forward, Backward or Bi-Directional power feeding by power fuse.
8. Built-in input/output lightning protector for double safety.
9. Max. RFI integrity is obtained by use of a wire mesh gasket.
10. The corrosion resistant 360 aluminum alloy diecast housing.

# INSTALLATION

## TA-280 Functional Diagram

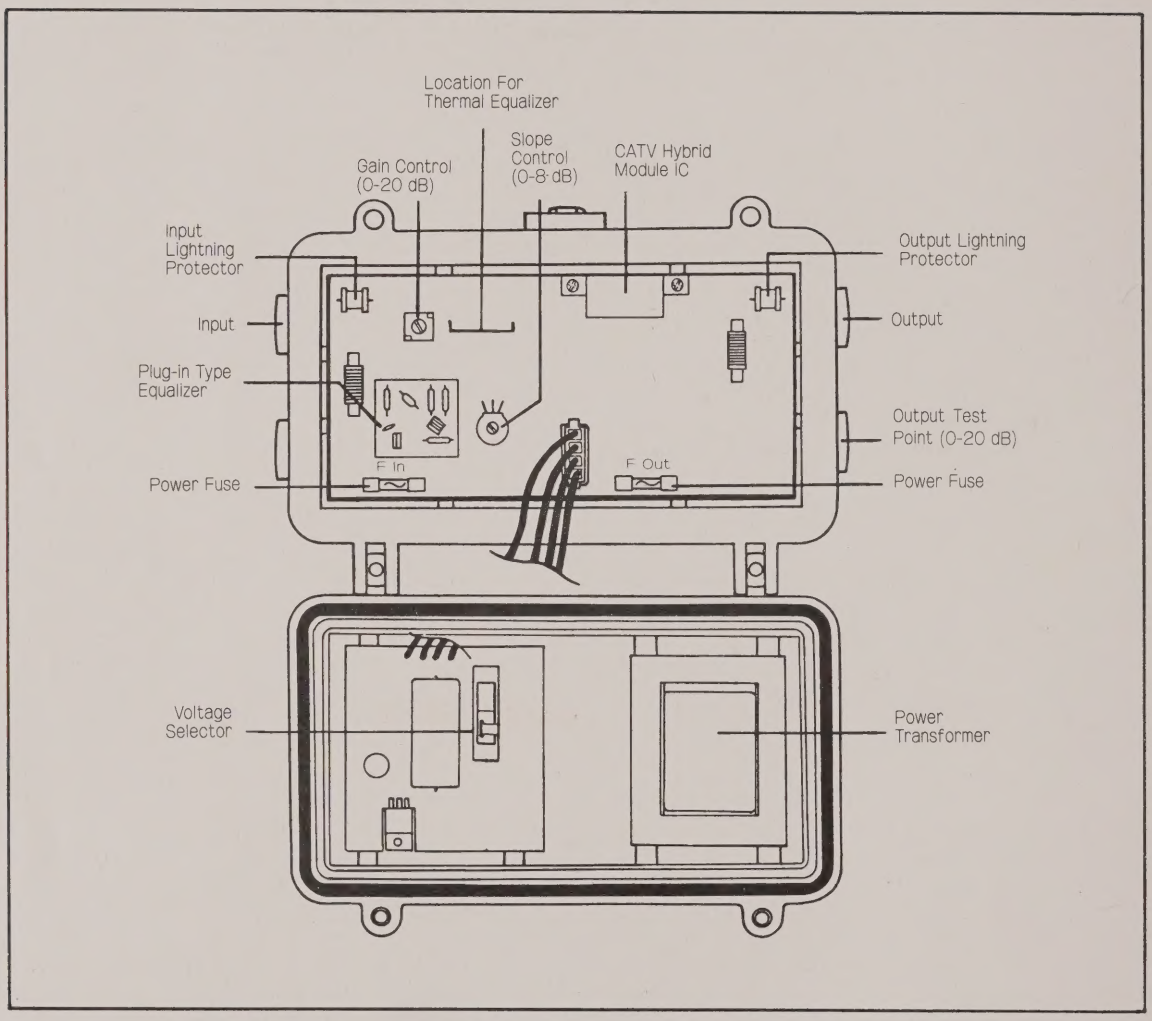



Figure 1 (Power Feeding Select)

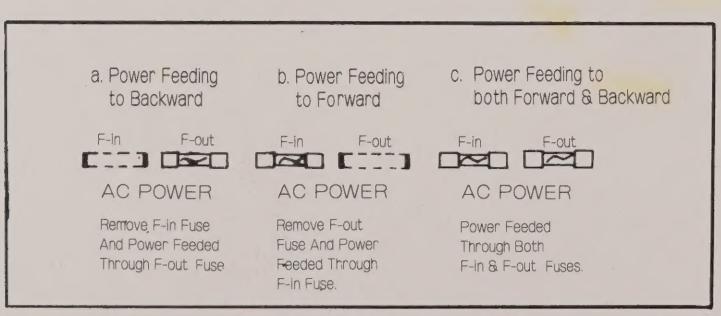
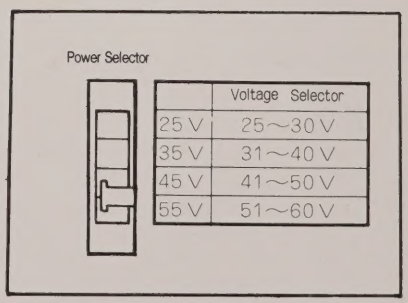



Figure 2 (Voltage Select)



1. Use steel wire to hang TA-280 Amplifier and have it fixed on mast.
2. Open the cover to fix the Input and Output connectors for signals connecting.
   - Use J-283 F to 5/8 connector when F11/7C-2V cable is being used.
   - Use exclusively Feed Through Connector when 0.500″ cable is being used.
   - Adjust the amplifier refering to the instruction.
3. Power Source Selections:
   - Select power feeding to Forward, Backward or Both Forward and Backward by removing power fuse. Refer the Figure 1 for power feeding select.
   - Use the electrometer to measure the Voltage value of input & output terminals of amplifier. According to measured Voltage value, adjust Voltage selector to the close level of the Voltage value, Refer Figure 2 for proper Voltage select.
4. Signal Level Adjustment:
   - Adjust output signal level of first TA-280 amplifier, and make the output signal level of each channel to be 95 dBuV (+35dBmV).
   - Maintain the input signal level of each TA-280 amplifier to be over 70 dBuV (+10 dBmV). (Note: For 300MHz System, install one TA-280 amplifier every 300M when F11/7C-2V cable is being used. This will maintain its proper signal level).
   - The procedure of Signal Level Adjustment.
     a. Plug the equalizer and thermal into amplifier.
     b. Adjust the gain control (0-20 dB) for making all the channels output signal level to be 95 dBuV (+35dBmV).
     c. Adjust the slope control for making all the channels output signal reach to a certain level.
   - The Methods Of Equalizer Selecting:
     a. Calculate the cable loss for 300 MHz (For 300 MHz System, only calculate the signal loss of coaxial cable, but not the other distributions).
     b. Select the identical value equzlizer based on the (a) 's calculated value. If you have no identical ones. Select the lower value equalizer and do slope control adjustment.
     c. Equalizer includes 0, 12, 22.5 dB to be selected.
     (TA-280 Amplifier already equipped with 22.5 dB equalizer, specify other values when ordering).
5. Using the Thermal Equalizer.
   - According to the thermal changes of coaxial cable features, thermal equalizer should be used properly.
   - Take off the jump wire which was equipped on the location for thermal equalizer and plug in thermal equalizer.
   (Thermal equalizer should be ordered separately and it's not equipped with TA-280 Amplifier).
6. The output of TA-280 Amplifier is equipped with test point (-20 dB) for measuring the signal level. (Use supplied J283 connector for testing cable connection).
7. Installation Notice:
   - When F11/7C-2V cable is being used for 300 MHz System transmission, approximately install one TA-280 Amplifier of every 300M. Cable connector J283 needs to be matched when installing.
   - When 0.500″ cable is being used for 300 MHz System transmission, approximately install one TA-280 amplifier of every 600M. 0.500″ cable exclusively used cable connector needs to be matched when installing.
   - When both the Input & Output terminal of TA-280 Amplifier connects with the cable connectors, the use of water-proof's caps are needed.
   - For Input & Output connector fitting:
     a. Do not use too long pin (approx. 25 - 30 mm) to prevent short-circuit.
     b. When replace the connectors, firstly open the cover and loosen the fixed screws, then take apart the original connectors to avoid damaging its structure.
8. Accessories:
   - EQ-22.5 dB Equalizer- 1 Pcs.
   - J283 F TO 5/8 connector- 1 Pcs.
   - 10A Fuse- 1 Pcs.
   - Jumper Wire (When using no Thermal) - 1 Pcs.

# TA-280 CATV LINE AMPLIFIER

## SPECIFICATIONS:

| Items | Specifications |
|---|---|
| Frequency Range | 45-300MHZ(TA-280B 45-450 MHZ)<br>(TA-280C 45-550 MHZ) |
| Frequency Response | ±0.5dB |
| MAX. Gain | 28dB |
| Gain Control | 0-20dB (Adjustable) |
| Slope Control | 0-8dB (Adjustable) |
| Equalizer | 22.5dB (0dB, 12dB option) |
| MAX. Output Level | 110dB (for NTSC 36 channels input)<br>(for PAL B 28 channels input) |
| Noise Figure | 7 ~ 9dB |
| Input/Output Return Loss | 16dB nom. |
| Cross Modulation | -57dB: 50dBmV |
| Second Order | -70dB: 49dBmV |
| Composite Triple Beat | -57dB: 49dBmV |
| Hum Modulation | -70dB |
| Lightning Conductor | 500A(10/1000 μS PULSE, 1.5x40 μS) |
| Output Test Point | -20dB |
| Output Impedance | 75 ohm |
| Voltage Range | 25~55V/AC |
| Temperature Range | ±40° C |
| Dimensions | 200(W)X136(L)X110(H)mm |
| Weight | 2.0KGS |